

use is impeded in certain markets heavily populated by incumbents will have every incentive to negotiate with the microwave users to relocate them. On the other hand, the rationale behind two 40 MHz licensees is contrary to this goal, encouraging PCS licensees to "work around" microwave incumbents until the last feasible moment, until some future saturation point is reached. Only then will sufficient incentives exist to relocate the incumbents, which, if successful, will leave PCS markets dominated by two 40 MHz "mega-licensees" and an extreme likelihood of less than effective competition.

C. Service Areas and Nationwide Licensing

As Bell Atlantic discussed in detail in its initial comments, it is overwhelmingly in the United States' national interest for the Commission to provide for at least two nationwide PCS licenses, in tandem with local PCS licensing on an MSA/RSA basis. The benefits and efficiencies of nationwide PCS licensing will be tremendous and pro-consumer. They will also be important to the buildout of the nation's information infrastructure and U.S. global participation in the Information Age.^{44/}

Notwithstanding the predictable opposition of some parties, the record thus far contains an impressive cross-section of major, divergent telecommunications interests -- cable companies, LECs, interexchange carriers, manufacturers, satellite providers, and

^{44/} Canada is the latest country to have recognized the wisdom of nationwide licensing in PCS. It just recently selected four companies to be nationwide PCS providers using CT2 Plus Class 2 technology (an improved version of the United Kingdom's digital telepoint technology). See Canadian PCS Moves One Step Closer to Reality, PCS News (Jan. 7, 1993).

the U.S. Government -- all recognizing the conceptual need for and urging the Commission to adopt some form of nationwide licensing in PCS.^{45/}

Moreover, actions by parties strongly opposed to nationwide PCS licensing speak louder than words in providing the public with the vast benefits of nationwide PCS networks. McCaw, for example, terms nationwide PCS licensing "the worst possible choice of all proposed options," and questions the economies of scale and scope such a nationwide network would offer.^{46/} Yet, both McCaw and AT&T hailed their recent deal as a "logical" alliance, "speeding the development of the first seamless wireless communications network to operate nationwide" and, according to Craig McCaw, allowing "us to accelerate our expansion and strengthen our leadership position in the broadly defined field of PCS."^{47/} In light of such statements lauding the benefits of a

^{45/} See, e.g., Comments of Bell Atlantic at 15-26 & Attachments; Comments of Celsat, Inc. (November 9, 1992) at 13-14; Comments of dBx Corporation (November 9, 1992), at 2-12; Comments of Interdigital Communications Corp. (November 9, 1992), at 18 & Appendix D; Comments of the Manager of the National Communications System (November 9, 1992), at 3-5; Comments of MCI Telecommunications Corporation (November 9, 1992), at 4-8; Comments of PowerSpectrum, Inc. (November 9, 1992), at 6; Comments of Time Warner Telecommunications on 1850-1990 MHz Personal Communications Services (November 9, 1992), at 7-10. In addition, a number of commenters on the Commission's proposal to allocate 3 MHz in the 900 MHz band to narrowband PCS have underscored the benefits of nationwide PCS licensing.

^{46/} Comments of McCaw Cellular Communications, Inc. at 18. AT&T opposes nationwide licensing in favor of LATAs, although it states that any one of the Commission's four proposed market definitions, including nationwide licensing, "should be sufficient to stimulate competition between new PCS service providers and established mobile service markets." Comments of AT&T at 11.

^{47/} MCI, AT&T Pursue National PCS Networks, Advanced Wireless Communications (Nov. 11, 1992) at 2; see AT&T Acquires 1/3 of McCaw for 3.8 Billion, Communications Daily (Nov. 5, 1992), at 4 (acknowledging beneficial economies of scope, and that deal would "strengthen the balance sheet" and "allow company to take better advantage of technology to provide seamless N. America network, single personalized numbering, time of day, [c]all routing, wireless access to data bases"). One newspaper summarized the AT&T/McCaw deal as follows:

Consumers one day will be fully liberated from the tyranny of the tethered telephone. They will be able to make and receive calls wherever a radio signal can reach -- not just in a car or on the street, as today's cellular phones allow, but also inside buildings and on mountaintops in remote sections of the country, where technical limitations now prevent cellular phones from working.

nationwide PCS network, arguments by McCaw and AT&T opposing the Commission's creation of additional potential nationwide competitors who could realize similar economies of scale and scope ring hollow.^{48/}

The benefits of nationwide PCS licensing are many, including:^{49/}

- Early technical standards selection, which in turn
 - Rapidly creates a nationwide equipment market for American manufacturers, and a headstart in competing in the forthcoming global PCS equipment markets;
 - Promotes rapid investment by both service providers and manufacturers;
 - Permits expedited achievement of economies of scale in the production of network and terminal equipment; in turn, the costs of equipment are lowered more quickly for all PCS licensees and end users;
 - Facilitates the infrastructure necessary to support nationwide roaming;
 - Promotes the rapid development of new transmission and information services markets;

McCaw and AT&T are expected to lead the development of a new, wireless network that will permit all that on a national basis, equipping consumers with such Jetsonian devices as wireless notebook computers for transmitting and receiving fax messages and phone calls.

Anthony Ramirez, McCaw Cellular poised for growth; AT&T deal could catalyze development, The Houston Chronicle (November 15, 1992) at 6.

^{48/} Similarly, although CTIA has rejected the concept of nationwide licensing, shortly after the comment deadline in this proceeding it solicited bids from 42 telecommunications companies to provide a national "seamless roaming network" to allow cellular users to receive calls anywhere in the United States without the need for complicated roaming charges. See Communications Daily (Nov. 19, 1992). In addition, although Fleet Call does not address the issue of geographic service areas in its comments, it, too, has been actively pursuing a nationwide wireless service network. See, e.g., Gautam Nail, Fleet Call Agrees to Pay \$268 Million in Stock to Acquire a Rival, Dispatch, Wall St. J., Dec. 22, 1992 ("The merger is the latest move by Fleet Call to create a nationwide wireless service that could compete with cellular.").

^{49/} See Comments of Bell Atlantic at 15-26 & Attachments B & C (Affidavit of Alfred E. Kahn and Technical Supplement of Dr. Charles L. Jackson).

- Promotes spectrum sharing, as microwave users gain confidence that their links will not be interrupted by use of non-standard devices.
- Avoidance of the immense transactions costs and time that attend the setting of a de facto standard by a marketplace splintered into many distinct service areas.
- Dramatic quickening of nationwide network construction and PCS rollout, as nationwide licensees can effectively set standards quickly, provide centralized management and legal control, obtain capital financing and construct the network in the most efficient configuration possible.
- Maximization of efficiency and frequency coordination among licensees.^{50/}

As the NTIA observes, nationwide licensees "would help ensure a nationally compatible PCS system."^{51/} Furthermore, the Secretary of Defense points out that such compatibility could be important for purposes of emergency preparedness and national defense.^{52/}

The comments offer no persuasive case against nationwide licensing in PCS, particularly considered in the context of the five provider "mix" of nationwide and local licensing that Bell Atlantic has proposed.

1. Nationwide Licensing Will Promote PCS Diversity.

Nationwide licensing need not inhibit diversity of PCS provision, nor will it stifle the ability of smaller entrepreneurs to enter the PCS market as some commenters have alleged.

^{50/} As Dr. Charles Jackson has explained, the problem of interference coordination across technical boundaries can be expected to be a significantly greater problem for PCS than for cellular. In this regard, "licenses serving wide geographic areas substantially reduce the transactions costs associated with negotiations between adjacent systems," and nationwide licenses "remove intraband coordination activities between firms" altogether. See Comments of Bell Atlantic, Technical Supplement of Dr. Charles L. Jackson, at 33-34.

^{51/} Comments of NTIA at 19.

^{52/} Comments of the Manager of the National Communications System (November 9, 1992), at 3-5.

First, Bell Atlantic has proposed a five-provider plan designed to maximize diversity of service provision including the innovations and benefits that attend a nationwide PCS network. In Professor Kahn's words:

[W]hen it turns to the question of the geographic scope of each license, the same goal of multiplicity and diversity of entrepreneurship calls for different kinds of licenses -- national as well as regional or local. This means, to come directly to the point, that if, for example, the Commission settles on five licenses for each locality, at least two and in my judgment preferably several of these should go to entities authorized to operate on a national scale as has been the general practice in other countries -- provided that no qualified applicants, LECs, cellular providers, interexchange carriers or others be categorically excluded from the opportunity to obtain one.^{53/}

Under Bell Atlantic's proposal, smaller entrepreneurs will be able to enter PCS markets easily on a local basis, and establish customized markets that may compete favorably with or complement the services offered by nationwide licensees.

Moreover, the nationwide licensee, through the buildout a nationwide PCS infrastructure consisting of a variety of wireline and wireless networks, will provide a PCS backbone with which smaller entrepreneurs will be able to interconnect and roll out innovative services quickly.^{54/} In this manner, nationwide licensees can promote diversity and entrepreneurship, as well as add their own unique benefits and service offerings to the 5-provider mix.

Arguments that nationwide licensees will have an immense competitive advantage relative to local PCS providers are not persuasive. The paging industry, for example, has thrived on a structure of nationwide, regional and local licensing;

^{53/} Comments of Bell Atlantic, Attachment B at 12 (Affidavit of Alfred E. Kahn).

^{54/} Recall that the OPP Study found that smaller, independent firms will likely provide PCS by pursuing a strategy of "negotiating alliances or commercial relationships among infrastructure alternatives available to deliver PCS." OPP Study at 44.

nationwide licensees there have not overwhelmed competitors. Moreover, the flexibility and technological diversity inherent in the PCS definition suggest that different services, configurations and technologies may be used to offer different types of personal communications services. As with all lines of commerce where there are nationwide companies, immense opportunities exist for smaller providers to offer services customized to local markets that may not even compete directly with the offerings of nationwide providers, or that are sold to entirely different consumer segments.

2. Local or Regional Licensing Should Be Pursued in Tandem With, Not in Lieu of, Nationwide Licensing.

There are indeed benefits to local licensing in PCS; an MSA/RSA regime, for example, could allow providers to enter PCS markets at relatively low cost and provide competitive PCS quickly. This is not and should not be, however, an argument for ignoring the vast benefits that nationwide licensing brings to PCS.

A local licensing scheme based on a high number of fragmented service areas, standing alone, would senselessly repeat the hard lessons learned from our nation's experience with cellular -- particularly with respect to standards issues. As Commissioner Duggan has observed, PCS "should be user-friendly, with handsets usable everywhere. It should be seamless and transparent, and it should incorporate a high degree of interoperability." Moreover, "the drive toward a firm set of standards speeds the delivery of products."^{55/}

^{55/} Telocator Bulletin (Nov. 13, 1992) at 3.

The Commission cannot achieve such goals rapidly if it waits for a large number of decentralized providers to reach common ground on PCS standards.^{56/} Correspondingly, to the extent APC and others laud the benefits of larger licensing areas, e.g. lessening the need for "roaming," expediting the crafting of roaming agreements, and expediting the process of making PCS equipment compatible across the country,^{57/} nationwide licenses manifestly provide the greatest benefit in facilitating nationwide roaming and interoperability. Moreover, nationwide licensing eliminates completely the transactions costs and delays that are inherent in the process of a fragmented number of regions attempting to seek agreement on roaming and technical standards. Even with larger trading areas, these costs and delays will likely be significant.^{58/}

^{56/} The OPP Study, referring to research by Sirbu and Stewart, suggests in a footnote that nationwide licenses could decrease incentives for interoperability and common standards and, that in contrast, smaller service areas would increase the number of PCS licensees and create more incentives for the decentralized providers to agree on common standards. OPP Study at 48 n.36.

This conclusion is possibly true but probably irrelevant. Nationwide licensing eliminates the necessity of separate providers having to agree upon common standards before nationwide roaming is possible. Thus, many of the difficult standardization decisions facing the diffuse industry become intrafirm purchasing decisions for nationwide licensees.

The OPP Study makes no mention of two negative effects on the standardization process that would flow from a diffuse PCS industry. First, of course, is the time required to reach a decision on a standard. If the decentralized industry makes a quick standards decision, say one taking only two or three years (five or more years is more likely considering past experience), it will still lag the decision-making process of a single firm by at least 18 to 24 months. Second, the very factors that push the decentralized market towards a single standard will tend to lock in a standard once adopted. Consequently the decentralized PCS industry may be less able to adopt subsequent new technologies and standards.

If the consolidation that the Commission has noted in cellular is any precursor, granting licenses in smaller regions would be followed by a lengthy process of consolidation and clustering -- leading to an industry consisting of relatively few providers. Any consideration of standards issues should be based upon the expected ultimate outcome of a licensing scheme, not its starting point.

^{57/} See Comments of APC at 23.

^{58/} The cellular industry, for example, has manifested a continuing inability to agree upon a digital cellular standard, even though it has consolidated to very large regional service areas. More recently, a similar standards problem has manifested itself in wireless data services. See Competing Standards Hamper Wireless Service, Wall Street Journal (Dec. 14, 1992). These problems disappear in PCS if

In the 1950's, the United States effected a kind of "paradigm shift" in transportation, and undertook one of the of the most ambitious projects of the automobile age: the building of a 42,000 mile Interstate Highway System, envisioned as a national network of multiple-lane dual expressways connecting 48 states and 90 percent of all cities with a population of 50,000 or more. The Interstate Highway made it possible for people to drive coast-to-coast on the Interstate Network without ever stopping at a light.

The Interstate Highway paradigm shift in transportation helped facilitate an increasingly mobile American public; the latter development in turn has now combined with exploding technological advances to engender the need for a similar paradigm shift in telecommunications and information technology. Americans now require ubiquitous nationwide voice and data capabilities, they desire to roam seamlessly on cellular and PCS networks (even as their vehicles travel across the ubiquitous Interstate Highway network), and they wish to interconnect with a variety of other networks on a national and international basis. In short, America now requires the buildout of a nationwide "Information Highway."

Bell Atlantic supports the efforts of the Commission to license PCS according to local and perhaps regional service areas. But without some nationwide PCS licenses, a nationwide Information Highway cannot be built effectively or efficiently -- any more than an Interstate Highway System could have been built effectively or efficiently

the Commission licenses at least two nationwide providers. These licensees should have incentives to adopt good and compatible standards, but even in a worst case where nationwide licensees adopt differing ones, customers will not be denied the ability to have seamless, ubiquitous voice and data coverage and continuing rapid adoption of improving technologies -- as they would be if 49 Major Trading Area licensees were left to agree upon common standards.

by waiting for 49 regional firms to agree on highway specifications, bridge clearances, design loads, or signal standards.

3. Nationwide Licensees Can Serve Rural Areas Quickly.

Arguments to the contrary are made by parties who seek to unduly narrow the definition of PCS to low-power microcell configurations designed to serve dense populations of mobile pedestrian users. If this assumption is made, the argument runs that nationwide licensees will seek to build out major markets first, because they will be the most profitable, and rural areas will therefore go unserved. The argument has several fallacies.

First, PCS has been defined broadly to encompass many networks and infrastructures; a nationwide licensee could implement a configuration combining PCS, cellular, cable and LEC networks that would in fact serve rural areas quickly and efficiently using new or existing infrastructure. More important, as APC has suggested with respect to regional service areas,^{59/} a nationwide licensee could build out certain major markets and effectively "franchise" operations in smaller or rural markets to local operators, who would in return reap many economies and benefits from such a nationwide affiliation. If the nationwide licensee remained responsible for the scheduled buildout of the affiliated system, it would have the incentive to make sure that its affiliates were technically able and qualified to get the system up and running in the specified time frame.

In addition, it is doubtful that a fragmented local licensing scheme such as MSA/RSA would, standing alone, accelerate the delivery of PCS to rural areas nearly as

^{59/} See Comments of APC at 35-39.

quickly as nationwide licensees. In cellular, for example, RSAs were the last territories to be served. By contrast, if a nationwide provider were to harness existing infrastructure to provide PCS in local and rural markets, these areas could be served far more quickly and efficiently.

D. Licensing Mechanism

Bell Atlantic urged in its initial comments that whatever mechanism is adopted for local PCS licensing, a streamlined form of comparative hearing must be used in choosing nationwide licensees in the absence of auction authority. MCI has also supported this notion. Even McCaw, who argues strongly against nationwide licensing in PCS, nonetheless observes that

this approach could not even be responsibly considered without assurances that comparative hearings would be utilized. Only a through a comparative process could the Commission ensure that service is planned for all areas of the country, that an acceptable menu of low cost and high quality services will be available, and that spectrum is efficiently used to provide service.^{60/}

As Bell Atlantic observed initially, although comparative hearings are disfavored by the Commission, a version of this mechanism must be used to assure that applicants are technically advanced, and possess the technology base and financial resources to roll out a ubiquitous, nationwide PCS information network system. Most drawbacks to the hearing process can be mitigated by imposing rigid eligibility and buildout requirements, financial and technical showings, and a stiff application fee on all nationwide applicants.^{61/}

^{60/} Comments of McCaw at 36.

^{61/} Comments of Bell Atlantic at 29.

Bell Atlantic suggests that, in choosing nationwide licensees, the

Commission consider the following comparative criteria:

- (1) To determine, on a comparative basis, the geographic areas and populations that each applicant proposes to serve, and when, with a significant enhancement awarded for rural service provision;
- (2) To determine, on a comparative basis, the diversity of business ownership represented by each applicant's proposed operations, considered as a whole;
- (3) To determine, on a comparative basis, the range and extent of services and network proposed by each applicant and when, to the extent applicant is able to demonstrate the feasibility of same and its ability to effectuate such proposals;
- (4) To determine, on a comparative basis, the nature and extent of the human resources and technical expertise and experience of each applicant necessary to effectuate its proposal; and
- (5) To determine, on a comparative basis, the ability of the network proposed by each applicant to assure, encourage and promote a wide variety of valuable communications services.

III. CONCLUSION

The stakes are too high in this proceeding for the Commission to arbitrarily exclude any class of provider at this juncture of PCS development -- especially those providers most likely to develop and enhance the infrastructure for PCS. The Commission must ensure that all companies, big and small, are offered the opportunity to offer competitive PCS to consumers. The Commission should also grant at least two nationwide PCS licenses in conjunction with local licenses to promote the efficient buildout of the nation's information infrastructure.

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Respectfully submitted,

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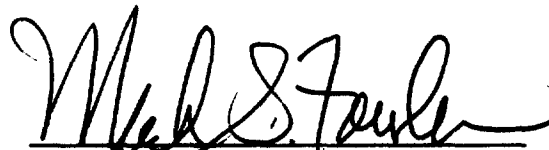
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